

MATERIAL TOPIC: ENERGY & EMISSIONS	2018	2019	2020	2021	2022	CONTEXT	GRI/SASB
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Annual Production - Annual Report figure, financial control: boe	31,853,185	36,630,232	34,839,540	31,173,190	31,093,255		
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Annual Production - Operated facility throughput including third-party volumes: boe	29,440,819	44,680,354	42,202,207	36,865,352	35,634,107	Use for energy and emissions intensity calculations to ensure numerator/denominator alignment	
ENERGY	2018	2019	2020	2021	2022		
Scope 1: Energy consumption within organization, non-renewable (natural gas, propane liquid, diesel fuel and vehicle fuel): GJ	4,132,866	5,554,821	5,172,331	4,806,111	4,388,587		302-1
Canada	2,809,879	3,592,038	3,223,562	2,907,176	2,496,328		
France	0	0	3,143	6,280	12,839		
Netherlands	60,390	72,585	73,037	74,841	70,352		
Australia	864,934	722,623	843,308	813,213	815,819		
United States	199,893	204,576	111,857	78,669	63,807		
Germany	120,844	135,350	108,675	112,212	101,099		
Central and Eastern Europe - Hungary and Croatia	2,932	9,236	5,119	16,544	0		
Ireland	73,996	818,413	803,630	797,175	828,343		
Energy intensity ratio Scope 1: GJ/boe	0.14	0.12	0.12	0.13	0.12		302-3
Scope 2: Energy consumption outside organization, non-renewable (electricity): GJ	1,403,021	2,077,646	1,232,392	1,049,524	1,243,976	1 MWh = 3.6 GJ	302-2
Canada	750,356	1,352,186	1,117,288	973,345	1,125,289		
France	623,641	679,640	60,296	16,762	40,973	2020, 2021 and 2022 reflect renewable energy breakout	
Netherlands	0	0	0	0	0	Guarantees of Origin green electricity 2017-2022; electricity consumed 2022 = 80,382 MWh	
Australia	669	587	383	463	476		
United States	10,969	30,803	45,119	45,273	52,198		
Germany	17,369	11,592	6,853	13,470	24,814	2020, 2021 and 2022 reflect renewable energy breakout	
Central and Eastern Europe - Hungary and Croatia	17	0	229	210	227		
Ireland	0	2,838	2,224	0	0	All purchased electricity from renewable fuels in 2021 & 2022; electricity consumed 2022 = 533.8 MWh	
Energy intensity ratio Scope 2: GJ/boe	0.05	0.05	0.03	0.03	0.03		302-3
Energy intensity ratio Scope 1+2: GJ/boe	0.19	0.17	0.15	0.16	0.16	2014+: operated battery energy use/operated battery production	302-3
Renewable energy	2018	2019	2020	2021	2022		
Total amount invested in renewable energy, CAD	\$1,306,667	\$446,778	\$568,182	\$2,887,512	\$1,771,725		
Canada	\$391,000	\$220,000	\$230,000	\$2,461,000	\$696,080	Assorted solar including DCET, pump retrofits, leak detection and remote monitoring	
France	\$312,000	\$190,000	\$270,000	\$388,455	\$800,508	4 geothermal from produced water projects; turbine pilot; hydrogen research	
Netherlands	\$603,667	\$36,778	\$68,182	\$23,680	\$215,379	Harlingen biogas project	
Australia	\$0	\$0	\$0	\$0	\$0		
United States	\$0	\$0	\$0	\$0	\$0		
Germany	\$0	\$0	\$0	\$0	\$0		
Central and Eastern Europe - Hungary and Croatia	\$0	\$0	\$0	\$0	\$49,758	Solar panels and batteries for Ceric and Berak wellsites; operational in 2024	
Ireland	\$0	\$0	\$0	\$14,377	\$10,000	Hydrogen research	
Renewable energy investment: % of capital expenditure	0.3	0.1	0.2	0.8	0.5		
Renewable energy GHG emissions avoided: tCO2e	24,566	24,623	18,993	18,635	19,349		
Renewable energy generated by source (actual energy content transferred): MWh	77,088	77,095	59,330	58,004	59,197		302-1
Canada	0	7	11	19	53		
France	77,088	77,088	59,319	57,985	59,144	Tom d'Aqui greenhouses/ Eco-neighborhood Arcachon / Turbines VBH2 / Fleur de Vie Vic Bilh/ Condorcet	
Netherlands	0	0	0	0	0		

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Australia	0	0	0	0	0		
United States	0	0	0	0	0		
Germany	0	0	0	0	0		
Central and Eastern Europe - Hungary and Croatia	0	0	0	0	0		
Ireland	0	0	0	0	0		
EMISSIONS	2018	2019	2020	2021	2022		GRI
Percentage of total emissions under emissions-limiting regulations		91%	89%	87%	100%	All BUs operate in regions under some form of emissions limiting regulations: e.g. EU ETS, carbon taxes, carbon pricing, methane regulations, etc.	EM-EP-110a.1.4
Scope 1 gross direct GHG emissions: tonne	742,175	858,823	793,203	648,337	616,184		EM-EP-110a.2 305-1
CO ₂ Scope 1 emissions (excluding CH ₄ and N ₂ O): tonne	456,817	555,687	531,078	466,472	416,262	Hydrofluorocarbons, Perfluorocarbons, Sulfur hexafluoride, VOCs, particulates not tracked	305-1
Canada	300,947	374,495	354,167	283,298	241,688		
France	61,169	64,419	56,764	65,665	62,414		
Netherlands	15,198	11,403	8,393	6,803	5,035		
Australia	46,587	42,024	50,209	50,627	46,476		
United States	19,152	15,409	13,253	11,949	12,909		
Germany	9,710	4,069	7,262	6,408	6,111		
Central and Eastern Europe - Hungary and Croatia	285	2,260	357	1,146	0		
Ireland	3,769	41,608	40,673	40,576	41,628		
Methane: tCO₂e	284,762	302,027	261,051	180,987	199,123		GRI 11.1.5
Canada	241,279	258,500	216,739	144,005	168,345		
France	10,197	8,499	8,752	8,009	6,932		
Netherlands	5,318	4,018	5,215	3,265	2,983		
Australia	16,961	18,601	21,373	18,655	11,112		
United States	1,468	3,981	4,436	4,739	4,684		
Germany	9,101	7,492	3,284	1,763	4,438		
Central and Eastern Europe - Hungary and Croatia	384	244	656	1.2	0		
Ireland	54	692	597	550	628		
Methane as a % of total Scope 1 direct GHG emissions	38	35	33	28	32		EM-EP-110a.1.3
Nitrous Oxide (N₂O): tCO₂e	596	1,109	1,073	878	799		305-2
Canada	378	465	505	290	310		
France	107	547	428	462	361		
Netherlands	22	7	28	12	10		
Australia	82	68	90	104	96		
United States	5	16	18	3	19		
Germany	2	1	4	4	4		
Central and Eastern Europe - Hungary and Croatia	0	5	0	3	0		
Ireland	0	0	0	0	0		
Scope 1 GHG emissions intensity, oil and gas production: tCO₂e/boe	0.025	0.019	0.019	0.018	0.017	2014+: operated battery Scope 1 emissions/operated battery production	305-4
Total Scope 2 GHG emissions: tCO₂e	173,847	288,345	247,144	214,778	218,839		305-2
Canada	160,369	269,349	222,010	194,319	192,833		
France	11,444	6,808	8,628	2,661	6,617		

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Netherlands	0	0	0	0	0		
Australia	130	114	73	88	90		
United States	787	10,231	14,425	13,856	15,088		
Germany	1,090	1,575	1,735	3,845	4,200		
Central and Eastern Europe - Hungary and Croatia	1	0	11	10	11		
Ireland	25	268	262	0	0		
Scope 2 GHG emissions intensity: tCO2e per boe	0.006	0.006	0.006	0.006	0.006	2014+: operated battery Scope 2 emissions/operated battery production	305-4
Scope 1+2 GHG emissions intensity: tCO2e per boe	0.031	0.026	0.025	0.023	0.023	2014+: operated battery Scope 1+2 emissions/operated battery production	305-4
Scope 3 Gross other indirect GHG emissions: tCO2e	12,408,270	14,188,122	13,226,527	11,631,963	11,682,455		305-3
Biogenic CO ₂ Scope 3 emissions	0	0	0	0	0		305-3
Purchased goods and services					79,047	Categories previously publicly reported in CDP Climate annual submissions; added to this report in 2022	
Capital goods					45,917		
Fuel and energy-related activities not included in Scope 1 or 2					197,814		
Upstream transportation and distribution					109,222		
Waste generated in operations					6,649		
Business travel					3,401		
Employee commuting					1,020		
Downstream transportation and distribution					55,671		
Processing of sold products					600,529		
Use of sold products	11,311,601	12,937,168	12,176,323	10,624,199	10,584,186		305-3
Emissions of ozone-depleting substances	0	0	0	0	0		305-6
NOx: tonne	29	2,136	1,190	977	1,579		EM-EP-120a.1 305-7
Canada	Not Tracked	1,912	1,011	818	1,193	From NPRI reporting	
France	22	51	45	50	46		
Netherlands	7	2	4	2	2		
Australia	Not Tracked	171	131	104	336		
United States	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Germany	Not Tracked	Not Tracked	Not Tracked	2	2		
Central and Eastern Europe - Hungary and Croatia	Not Tracked	Not Tracked	Not Tracked	Not Tracked	0		
Ireland	Not Tracked	Not Tracked	Not Tracked	Not Tracked	Not Tracked		
SO ₂ : tonne	736	2,488	2681	2219	1871		EM-EP-120a.1 305-7
Canada	198	1,800	1,935	1,360	1,059	From 2022 NPRI reporting, SO ₂ recalculated based on measured H ₂ S	
France	538	682	737	851	803		
Netherlands	0	0	0	0	0		
Australia	-	-	1	1	1		
United States	-	5	8	7	8		
Germany	-	-	-	-	-		
Central and Eastern Europe - Hungary and Croatia	-	-	-	-	0		
Ireland	-	-	-	-	-		
Volatile Organic Compounds (VOCs) (non-methane): tonne		68	145	621	938	Volatile organic compounds that participate in atmospheric photochemical reactions; excludes carbon monoxide, carbon dioxide and methane	EM-EP-120a.1 305-7

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Canada		68	Not Tracked	138	455	From NPRI reporting	
France		Not Tracked	128	181	225		
Netherlands		Not Tracked	13	19	11		
Australia		Not Tracked	Not Tracked	Not Tracked	Not Tracked		
United States		Not Tracked	Not Tracked	278	245		
Germany		Not Tracked	4	5	3		
Central and Eastern Europe - Hungary and Croatia		Not Tracked	Not Tracked	Not Tracked	0		
Ireland		Not Tracked	Not Tracked	Not Tracked	Not Tracked	Ireland is below the regulatory reporting threshold for NMVOC	
Particulate Matter (PM10): tonne						Airborne finely divided solid or liquid material with an aerodynamic diameter ≤ 10 micrometers	EM-EP-120a.1 305-7
Canada		125	219	9	106	From NPRI reporting	
France		Not Tracked	3	2	2		
Netherlands		Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Australia		Not Tracked	8	12	13		
United States		Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Germany		Not Tracked	Not Tracked	Not Tracked	Not Tracked		
Central and Eastern Europe - Hungary and Croatia		Not Tracked	Not Tracked	Not Tracked	0		
Ireland		Not Tracked	Not Tracked	Not Tracked	Not Tracked		
FLARING AND VENTING	2018	2019	2020	2021	2022		EM-EP-110a.2
Volume of flared hydrocarbon: e3m3/yr	69,906	78,962	83,116	66,563	58,260	Note that all flared volumes are reported, not just continuous flares	11.1.5
Canada	45,455	55,526	62,108	42,144	36,437		
France	21,261	20,123	17,797	20,456	17,377		
Netherlands	201	235	236	287	250		
Australia	788	1,351	1,413	1,688	1,722		
United States	1,858	780	1,379	1,713	2,172		
Germany	289	23	31	58	218		
Central and Eastern Europe - Hungary and Croatia	32	763	0	0	0		
Ireland	22	161	152	206	84		
Volume of continuously vented hydrocarbon: e3m3/yr	12,318	14,222	9,758	10,441	10,064		11.1.5
Canada	9,447	11,424	6,968	8,442	8,622		
France	847	729	765	696	634		
Netherlands	260	62	189	66	58		
Australia	1,097	1,390	1,446	1,158	597		
United States	25	48	45	24	74		
Germany	617	526	275	21	47		
Central and Eastern Europe - Hungary and Croatia	21	11	37	0	0		
Ireland	3	33	33	33	33		
Flaring/Venting Intensity based on production: e3m3/boe	0.0028	0.0021	0.0022	0.0021	0.0019	2012-2013: operated battery flaring and venting/operated and financial production 2014+: operated battery flaring and venting emissions/operated battery production	11.1.5
Hydraulic Fracturing						Hydraulic fracturing used in Canadian and US operated production	
Percentage of global production from hydraulic fracturing	40	42	37	49	51	% is approximate based on 100% frac'd in US, estimated 73% in Canada, and 0% in Europe and Australia	
Percentage of public disclosure of hydraulic fracturing fluids						All fracturing fluids are disclosed through FracFocus	

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Canada		100	100	100	100		EN-EP-140a.3
United States		100	100	100	100	No proprietary blends used	
Enhanced Oil Recovery from Carbon Capture and Storage						Based on non-operated production	
Volume of oil and NGLs produced from CCS ops: bbls/d, equity basis	2,321	2,045	2,098	1,753	1,784	Weyburn Carbon Capture and Storage project: non-operated	
CCS ops percentage of total (global) oil and NGLs produced: equity basis	5	4	4	4	4	Global oil & NGLs 2022 Equity/Financial Control: 45,491 bbl/d Global oil & NGLs 2021 Equity/Financial Control: 46,468 bbl/d Global oil & NGLs 2020 Equity/Financial Control: 52.538 bbl/d	